

CLAIMS

What is claimed is:

1. A liquid crystal device including a first substrate and a second substrate opposing each other and a liquid crystal enclosed in a gap between the first substrate and the second substrate, the liquid crystal device comprising:

an underlying film provided on the first substrate;

a reflective conductive film which is formed on the underlying film and which contains silver; and

a metal oxide film which is deposited on the reflective conductive film and which is patterned so that the edge portion of the metal oxide film comes into contact with the underlying film.

2. The liquid crystal device according to claim 1, wherein the underlying film comprises a metal oxide.

3. The liquid crystal device according to claim 1, wherein a reflective layer reflecting blue light is provided on the upper face of the reflective conductive film.

4. An electronic apparatus comprising a liquid crystal device according to claim 1.

5. A liquid crystal device including a first substrate and a second substrate opposing each other and a liquid crystal enclosed in a gap between the first substrate and the second substrate, the liquid crystal device comprising:

a first lead provided on the first substrate;  
a conductive film provided on the second substrate; and  
a conductive material connecting the first lead and the conductive film;

wherein the first lead comprises an underlying film, a metal film which is formed on the underlying film and which contains silver, and a metal oxide film which is deposited on the metal film and which is patterned so that the edge portion of the metal oxide film comes into contact with the underlying film.

6. The liquid crystal device according to claim 5,  
wherein the underlying film comprises a metal oxide.

7. The liquid crystal device according to claim 5,  
wherein the metal film is formed at a portion other than the connection to the conductive material.

8. The liquid crystal device according to claim 5, further comprising:

a pixel electrode provided on the first substrate;

an active element connected to the pixel electrode at one end of the active element;

a signal line provided on the first substrate and connected to the first lead to apply a voltage to the liquid crystal; and

wherein the signal line is connected to the other end of the active element.

9. The liquid crystal device according to claim 5,

further comprising a driver IC chip for driving the liquid crystal;

wherein the driver IC chip comprises an output bump for supplying an output signal to the first lead, and

the output bump is connected to the first lead.

10. The liquid crystal device according to claim 9,

wherein the metal film is formed at a portion other than the connection to the output bump.

11. The liquid crystal device according to claim 5, further comprising:

a second lead provided on the first substrate and a driver IC chip for driving the liquid crystal,

wherein the driver IC chip comprises an input bump for inputting an input signal from the second lead,

the input bump is connected to the second lead, and

the second lead comprises an underlying film, a metal film which is formed on the underlying film and which contains silver, and a metal oxide film which is deposited on the metal film and which is patterned so that the edge portion of the metal oxide film comes into contact with the underlying film.

12. The liquid crystal device according to claim 11,

wherein the metal film is formed at a portion other than the connection to the input bump.

13. The liquid crystal device according to claim 11, further comprising:

an external circuit board for supplying an input signal to the driver IC chip,

wherein the external circuit board and the second lead are connected to each other, and

the metal film is formed at a portion other than the connection to the external circuit board.

14. A liquid crystal device including a first substrate and a second substrate opposing each other and a liquid crystal enclosed in a gap between the first substrate and the second substrate, the liquid crystal device comprising:

an electrode provided on the first substrate for supplying a voltage to the liquid crystal;

a first lead connected to the electrode; and

a driver IC chip connected to the first lead,

wherein the first lead comprises an underlying film, a metal film which is formed on the underlying film and which contains silver, and a metal oxide film which is deposited on the metal film and which is patterned so that the edge portion of the metal oxide film comes into contact with the underlying film.

15. The liquid crystal device according to claim 14,  
wherein the metal film is formed at a portion other than the  
connection to the driver IC chip.

16. The liquid crystal device according to claim 14, further  
comprising:

a second lead provided on the first substrate,  
wherein the driver IC chip comprises an input bump for inputting an  
input signal from the second lead,  
the input bump is connected to the second lead, and  
the second lead comprises an underlying film, a metal film which is  
formed on the underlying film and which contains silver, and a metal oxide  
film which is deposited on the metal film and which is patterned so that  
the edge portion of the metal oxide film comes into contact with the  
underlying film.

17. The liquid crystal device according to claim 16, further  
comprising:

an external circuit board for supplying an input signal to the second  
lead,

wherein the metal film is formed at a portion other than the  
connection to the external circuit board.

18. A liquid crystal device including a first substrate and a second substrate opposing each other and a liquid crystal enclosed in a gap between the first substrate and the second substrate, the liquid crystal device comprising:

a lead provided on the first substrate,

wherein the lead comprises an underlying film, a metal film formed on the underlying film, and a metal oxide film deposited on the metal film.

19. The liquid crystal device according to claim 18,

wherein the underlying film comprises a metal oxide.

20. The liquid crystal device according to claim 18,

wherein the metal film comprises elemental silver or a silver alloy.

21. The liquid crystal device according to claim 18, further comprising:

a first extending region which is provided at one side of the first substrate and which does not overlap the second substrate; and

a second extending region which is provided at a side crossing said one side of the first substrate and which does not overlap the second substrate,

wherein the lead is provided over the first extending region and the second extending region.

22. A liquid crystal device including a first substrate and a second substrate opposing each other and a liquid crystal enclosed in a gap between the first substrate and the second substrate, the liquid crystal device comprising:

an underlying film provided on the first substrate;

a reflective conductive film which is formed on the underlying film and which contains silver;

a first transparent electrode deposited on the reflective conductive film and comprising a metal oxide film which is patterned so that the edge portion of the first transparent electrode comes into contact with the underlying film;

a second transparent electrode provided on the second substrate; and

a transfective portion provided corresponding to the crossing between the first transparent electrode and the second transparent electrode.



23. A liquid crystal device including a first substrate and a second substrate opposing each other and a liquid crystal enclosed in a gap between the first substrate and the second substrate, the liquid crystal device comprising:

an underlying film provided on the first substrate;

a reflective conductive film which is formed on the underlying film and which contains silver;

a first transparent electrode deposited on the reflective conductive film and comprising a metal oxide film which is patterned so that the edge portion of the reflective conductive film comes into contact with the underlying film;

a second transparent electrode provided on the second substrate; and

a color layer provided corresponding to a crossing between the first transparent electrode and the second transparent electrode.

24. A method for making a liquid crystal device including a first substrate and a second substrate opposing each other and a liquid crystal enclosed in a gap between the first substrate and the second substrate, the method comprising the steps of:

forming an underlying film on the first substrate;

forming a reflective conductive film containing silver on the underlying film; and

forming a metal oxide film on the reflective conductive film so that the edge portion of the reflective conductive film comes into contact with the underlying film.

25. The method for making a liquid crystal device according to claim 24,

wherein the underlying film comprises a metal oxide.

26. The method for making a liquid crystal device according to claim 24, further comprising the step of:

simultaneously patterning the underlying film and the metal oxide film.